

Claims

1. A rear plate of a plasma display panel, the rear plate comprising:

5 a glass substrate;
electrodes formed in a shape of patterns on an upper surface of the glass substrate;

a dielectric layer formed on upper surfaces of the electrode and the upper surface of the glass substrate;
10 barrier ribs formed in a shape of a pattern through etching on an upper surface of the dielectric layer; and

phosphorous layers formed on side surfaces and bottom surfaces of the barrier ribs, to emit visible rays according to electric signals, wherein:

15 the electrodes include an effective electrode portion formed at a central portion of the glass substrate to apply an address signal, an electrode pad portion formed at a peripheral portion of the glass substrate and connected with a driving circuit to transfer a signal, and an electrode connecting portion interconnecting the effective electrode portion and the electrode pad portion, and has a specific resistance of $2.5 \times 10^{-6} \sim 4 \times 10^{-6} \Omega \text{cm}$;

20 the dielectric layer covers all of the effective electrode portion and a part of the electrode connecting portion of each electrode, and is made from complex of glass and ceramic filler, which has a dielectric constant of 8~20, a reflectance of 50~80%,
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an etching rate of $0.03\sim 0.8\mu\text{m}/\text{min}$ with respect to inorganic acid, and a thickness of $10\sim 30\mu\text{m}$;

the barrier ribs are formed in a shape of stripes on the upper surface of the dielectric layer while being located between the effective electrode portions, and are made from complex of glass and ceramic filler, which has a dielectric constant of $7\sim 18$, a reflectance of $40\%\sim 70\%$, an etching rate of $1.0\sim 30.0\mu\text{m}/\text{min}$ with respect to inorganic acid, and a thickness of $100\sim 160\mu\text{m}$, and each of the barrier ribs meets conditions, $A/B=0.67\sim 1.25$ and $B/C=0.32\sim 1.0$, wherein A, B, and C represent width of an uppermost portion, a middle portion, and a lowermost portion of each barrier rib, respectively;

the phosphorous layers have a thickness of $10\sim 30\mu\text{m}$.

2. A rear plate of a plasma display panel as claimed in claim 1, wherein the barrier ribs are spaced equal intervals apart from each other.

3. A rear plate of a plasma display panel as claimed in claim 1, wherein the barrier ribs are spaced unequal intervals apart from each other.

4. A rear plate of a plasma display panel as claimed in claim 2 or 3, wherein protrusions are formed on side surfaces of the barrier ribs opposed to each other.

5. A rear plate of a plasma display panel, the rear plate comprising:

a glass substrate;

5 electrodes formed in a shape of patterns on an upper surface of the glass substrate;

a dielectric layer formed on upper surfaces of the electrode and the upper surface of the glass substrate;

10 barrier ribs formed in a shape of a pattern through etching on an upper surface of the dielectric layer; and

phosphorous layers formed on side surfaces and bottom surfaces of the barrier ribs, to emit visible rays according to electric signals, wherein:

15 the electrodes includes an effective electrode portion formed at a central portion of the glass substrate to apply an address signal, an electrode pad portion formed at a peripheral portion of the glass substrate and connected with a driving circuit to
20 transfer a signal, and an electrode connecting portion interconnecting the effective electrode portion and the electrode pad portion, and has a specific resistance of $2.5 \times 10^{-6} \sim 4 \times 10^{-6} \Omega \text{cm}$;

25 the dielectric layer covers all of the effective electrode portion and a part of the electrode connecting portion of each electrode, and is made from complex of glass and ceramic filler, which has a dielectric constant of 8~20, a reflectance of 50~80%, an etching rate of $0.03 \sim 0.8 \mu\text{m}/\text{min}$ with respect to

inorganic acid, and a thickness of $10\sim 30\mu\text{m}$;

the barrier ribs are formed in a shape of matrix on the upper surface of the dielectric layer while being located between the effective electrode portions, and are made from complex of glass and ceramic filler, which has a dielectric constant of $7\sim 18$, a reflectance of $40\%\sim 70\%$, an etching rate of $1.0\sim 30.0\mu\text{m}/\text{min}$ with respect to inorganic acid, and a thickness of $100\sim 160\mu\text{m}$, and each of the barrier ribs meets conditions, $A/B=0.67\sim 1.25$ and $B/C=0.32\sim 1.0$, wherein A, B, and C represent width of an uppermost portion, a middle portion, and a lowermost portion of each barrier rib, respectively;

the phosphorous layers have a thickness of $10\sim 30\mu\text{m}$.

6. A rear plate of a plasma display panel as claimed in claim 5, wherein the barrier ribs are spaced equal intervals apart from each other.

7. A rear plate of a plasma display panel as claimed in claim 5, wherein the barrier ribs are spaced unequal intervals apart from each other.

8. A rear plate of a plasma display panel as claimed in claim 6 or 7, wherein, when the transverse direction of the barrier ribs 146 is given as an X direction and the longitudinal direction thereof is given as a Y direction, thickness of each of the

barrier ribs in the X direction is different from
thickness thereof in the Y direction.